UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

GYRODATA INCORPORATED,	§	
	§	
Plaintiff,	§	
VS.	§	CIVIL ACTION NO. H-09-1005
	§	
GYRO TECHNOLOGIES, INC.; dba VAUGHN ENERGY SERVICES, *et al*,	§	
	§	
	§	
Defendants.	§	

MEMORANDUM OPINION AND ORDER

I. Introduction

This is a patent infringement case where the plaintiff, Gyrodata Incorporated ("Gyrodata") and the defendant, Gyro Technologies, Inc., ("Gyro Tech") seek an examination and construction of certain terms and phrases in the claims found in Gyrodata's United States Patent No. 5,806,195 (the '195 Patent), entitled "Rate Gyro Wells Survey System Including Nulling System." Gyrodata contends that Gyro Tech's Gyroflex Navigator and Gyroflex Explorer surveying units infringe the '195 Patent. Gyro Tech denies infringement and the matter is before the Court following a Markman hearing. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995).

II. Factual Background

The pertinent facts in this dispute are set forth in the Court's earlier memorandum opinion and order denying Gyrodata's first amended application for a preliminary injunction. (Docket Entry No. 132). At present, the parties disagree on the construction of independent claim 53 and dependent claim 56. The disputed claims read as follows:

> 53. An apparatus for measuring a sequence of data from within a well borehole, comprising:

(a) a sonde which is conveyed within said borehole, wherein said sonde comprises
(i) a rate gyro comprising at least one axis,
(ii) a power supply to operate said rate gyro,
(iii) a memory for recording response of said rate gyro, and
(iv) means for measuring the direction of gravity acting upon said sonde;
(b) a CPU for
(i) combining a first and a second measurement from said rate gyro to obtain a measure of true north,
(ii) combining a third and a fourth measurement from said rate gyro with said first and second measurements to reduce systematic instrument error in said measure of true north; and
(iii) combining said measure of gravity direction and said measure of true north to obtain said measured sequence of data; and
(c) means for conveying said sonde within said well borehole.

56. The apparatus of claim 53 wherein said means for conveying said sonde comprises the force of gravity.

III. Contentions

The contentions of the parties focus on construction of six terms from claims 53 and 56: "CPU," "sonde," "measuring means," "sequence of data," "conveying means" and "the force of gravity." The parties have agreed on the construction of every other pertinent term. The contested claim language has been reproduced prior to the following discussions of each respective term.

IV. Standard of Review

"The construction of patent claims is a matter of law exclusively for the court." *Automated Bus. Cos. v. ENC Tech. Corp.*, No. H-06-1032, 2009 WL 3674507, at *2 (S.D. Tex. Oct. 30, 2009) (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996)). "We begin a claim construction analysis by considering the language of the claims themselves. However, claims must be read in view of the specification, of which they are a part." *Edward Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1327 (Fed. Cir. 2009) (internal quotation marks and citations omitted).

When an ambiguity in a patent claim is asserted, intrinsic evidence alone may or may not be sufficient to resolve the dispute. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005). Thus, the Court may, while keeping its focus on the claim language, examine extrinsic evidence when necessary. *Id.* Intrinsic evidence refers to a patent's claims, specification and prosecution history. *Bell Atl. Network Servs., Inc. v. Covad Comm'ns Group, Inc.*, 262 F.3d 1258, 1268–69 (Fed. Cir. 2001). Extrinsic evidence includes all sources outside of intrinsic evidence, such as treatises, technical dictionaries, expert reports and testimony. *Id.* at 1269. While both intrinsic and extrinsic evidence may be utilized by the Court to establish proper claim construction, case law dictates that the process must begin with the intrinsic evidence and rely on extrinsic evidence only when necessary, but never to contradict the intrinsic evidence. *Phillips*, 415 F.3d at 1318.

A patent holder should know what he owns. Further, the public should know what the patent holder does not own. *Festo Corp. v. Shoketsu Kinzoku Kogyo Katushiki Co.*, 35 U.S. 722, 731 (2002); *see also* William Michael Schuster, *Predictability and Patentable Processes: The Federal Circuit's In re Bilski Decision and Its Effect on the Incentive to Invent*, 11 Colum. Sci. & Tech. L. Rev. 1 (2009) (discussing the importance of predictability in encouraging innovation). To this end, an inventor may create his own glossary of terms and attribute a meaning to a term different from the meaning that that term might otherwise possess. In these instances, the inventor's lexicography governs. *Phillips*, 415 F.3d at 1316; *see also Ballard Med. Prods. v. Allegiance Healthcare Corp.*, 268 F.3d 1352, 1359 (Fed. Cir. 2001). ("An inventor may use the specification and prosecution history to define what his invention is and what it is not—particularly when distinguishing the invention over prior art.").

A patent may express a claim limitation by describing the function to be performed, as opposed to reciting a specific structural element. These limitations are referred to as "means-plus-function limitations." *See Valmont Indus., Inc., v. Reinke Mfg. Co., Inc.*, 983 F.2d 1039, 1042 (Fed. Cir. 1993). In construing such a claim, the Court initially determines whether the language invokes 35 U.S.C. § 112(6), ¶6 (describing means-plus-function limitations). If the first element is satisfied, the Court identifies the function of the limitation and construes it in light of the specification and equivalents. *See JVW Enter., Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1330 (Fed. Cir. 2005).[1]

V. Analysis & Discussion

The parties have identified six terms that must be construed at this stage of the proceedings: "CPU," "sonde," "measuring means," "sequence of data," "conveying means" and "the force of gravity."

1. The CPU

The invention set forth in claim 53 of the '195 patent comprises:

> An apparatus for measuring a sequence of data from within a well borehole, comprising . . .
> (b) a CPU for
> (i) combining a first and a second measurement from said rate gyro to obtain a measure of true north,
> (ii) combining a third and a fourth measurement from said rate gyro with said first and second measurements to reduce systematic instrument error in said measure of true north; and

[1] *See also Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1377 (Fed. Cir. 2008). With regard to construing means-plus-function claims, *Minks v. Polaris Industries* states that:

> "The first step in construing such a limitation is to identify the function of the means-plus-function limitation." *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1208 (Fed. Cir. 2002). "The next step is to identify the corresponding structure in the written description necessary to perform that function." *Id.* " 'Structure disclosed in the specification is "corresponding" structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.'" *Id.* (quoting *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)).

Id.

> (iii) combining said measure of gravity direction and said measure of true north to obtain said measured sequence of data . . . .

Gyro Tech advocates that, with regard limitation 53(b), a CPU "is onboard the [survey] tool, is insertable into the borehole, and is capable of performing all three functions described in Claim 53, subsection (b)." To the contrary, Gyrodata states that CPU means "a CPU that is capable of performing all three functions defined in Claim 53, subsection (b)." As such, the Court must determine whether the CPU is required to be onboard the survey tool.

As previously discussed, "[w]hen construing claims, . . . the intrinsic evidence and particularly the claim language are the primary resources." *Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009). Accordingly, "when 'an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term,' it is improper to rely on extrinsic evidence." *Kegel Co., Inc. v. AMF Bowling, Inc.*, 127 F.3d 1420, 1426 (Fed. Cir. 1997) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)). "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). Beyond the claim language, intrinsic evidence in a patent case includes the specification and prosecution history. *L.B. Plastics, Inc. v. Amerimax Home Prods., Inc.*, 499 F.3d 1303, 1308 (Fed. Cir. 2007).

In support of its asserted claim construction, Gyro Tech presents an argument premised on two points from the intrinsic evidence. First, as disclosed in the preamble of claim 53, a "sequence of data" comes from "within a well borehole." Second, pursuant limitation 53(b), the CPU is used for "combining [measured data] to obtain said measured sequence of data." Gyro Tech emphasizes the use of the phrase "*said* measured sequence of data" and points out that the word "said" necessarily relates back to the "sequence of data" disclosed in the preamble. From

these points, Gyro Tech rationalizes that: (1) a sequence of data is drawn from within the borehole, (2) the CPU creates this sequence of data and (3) since this sequence of data comes from within the borehole and the CPU creates the sequence of data, the CPU must necessarily be within the borehole.

In disputing this argument, Gyrodata asserts that:

> [Gyro Tech's argument] is simply sophistry. Claim 53 refers to an apparatus that has at least the elements set forth in 53(a), (b) and (c). By definition, the apparatus may exist with elements other than those listed in the claim. Moreover, the claim clearly identifies components in the sonde (53(a)) and separates the other elements that may be outside the wellbore (53(b) and (c)). Contrary to the claim language, Defendants' argument presupposes all elements are within the wellbore. Defendants are simply wrong.
>
> Long established precedent shows an apparatus "comprising" certain elements includes at least the listed elements amongst others. As applied here, this means "apparatus for measuring a sequence of data from within a well borehole, comprising" describes an apparatus for measuring a sequence of data from within a well borehole that includes but is not limited to the components explicitly listed in the claim . . . . Two points are important here: (1) the data comes from with the wellborehole, not the entire apparatus; and (2) the only component Claim 53 explicitly describes as being insertable into the wellbore is the "sonde" described in 53(a) . . . . The term "Apparatus for measuring" does not require a CPU to be downhole.

The Court disagrees with Gyrodata. It is correct that the term "comprising" means that the claimed invention necessarily includes, but is not limited to, the disclosed elements. However, a plain language analysis of claim 53 proves this point to be, for the purposes of the present argument, superfluous.

As set forth by Gyro Tech, a logical (plain language) construction of claim 53 requires the CPU to be downhole. Therefore, it is of no matter that the invention could include other elements. Claim 53(b) requires a CPU that creates a sequence of data and, pursuant the claim's preamble, the sequence of data comes from downhole. Accordingly, the CPU must necessarily be inside the downhole sonde (as the pressure and heat would destroy the CPU if it were

downhole and outside of the sonde). The inclusion of additional elements (pursuant to the "comprising" language in claim 53) could not change this.

Further, to the extent that Gyrodata points out that, within the bounds of claim 53, only the sonde is expressly stated to be "insertable into the wellbore," this makes no difference in the Court's analysis. The fact that the CPU is not expressly noted to be "insertable" does not change the logical conclusion that the CPU is located downhole (and therefore, is necessarily inside the sonde).

In a second, related argument, Gyrodata states that "per the Defendants' own authority, [*Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1242–43 (Fed. Cir. 2008),] 'a' CPU in 53(b) means 'one or more' just as 'a' sequence of data means 'one or more.'" From this, Gyrodata asserts that "[t]he mere fact that the invention consists of at least one CPU producing at least one sequence of data . . . . does not mandate that there be only one sequence of data of a particular type . . . ." Even if the Court accepted Gyrodata's assertions that there can be multiple sequences of data and multiple CPUs, this would not help Gyrodata's argument.

Claim 53 requires *at least one* CPU that can perform *all* of the functions listed in limitation 53(b).[2] In pertinent part, this limitation requires that this CPU produce a "sequence of data" that was created (pursuant to the preamble) "within the borehole." It is of no consequence if there are multiple sequences of data. The preamble requires the existence of *at least* one "sequence of data from within a well borehole," which is computed by the CPU disclosed in limitation 53(b). As such, Gyrodata's argument—regarding the potential presence of multiple

[2] To the extent that Gyrodata asserts that limitation 53(b) can be satisfied by multiple CPUs, each of which satisfy one element of 53(b), this is a misreading of Federal Circuit precedent. *See Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1242–43 (Fed. Cir. 2008). Further, to the extent that Gyrodata asserts that the presence of multiple sequences of data militates against a finding that limitation 53(b) requires the CPU to be downhole, this is likewise a misreading of Federal Circuit precedent. *See id.*

sequences of data or multiple CPUs—does nothing to defeat the fact that limitation 53(b) discloses a CPU that creates a sequence of data while inside the borehole.

In a third distinct argument, Gyrodata asserts that intrinsic evidence (outside of the language of the claims) establishes that the claimed CPU can be located inside or outside of the wellbore. *See Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1373 (Fed. Cir. 2008) (noting that the intrinsic evidence of any patent includes the claim, the specification and the prosecution history, if in evidence). In support of this argument, Gyrodata points to five instances in the '195 patent that (Gyrodata alleges) refer to an "additional surface CPU that further processes the 'sequence of data' obtained in the wellbore:"

1. "When retrieved to the surface, the memory can be interrogated, and the data removed from the sonde **10** for subsequent and separate processing . . . ." (col. 6, lines 11–13)

2. "[M]easurements of G_x and G_y . . . are recorded for later subtraction, or they can be automatically subtracted by the CPU . . . ." (col. 7, lines 57–59)

3. "The averaged measurements and deviation data are stored and are subsequently retrieved when the tool **10** is brought to the surface." (col. 8, lines 1–3)

4. "The sonde is then removed and connected to a suitable output cable to enable transfer of the measured data out of the sonde into another memory device. This enables the data to be further analyzed and used in plotting a survey of the well borehole." (col. 8, lines 18–23)

5. "The method of claim 14 including the step of making said signal measurements recorded in memory within said sonde and retrieving the sonde to obtain data recorded in memory." (col. 10, lines 44–47)

With regard to this argument, the Court initially recognizes that the presence of an additional surface CPU does not logically negate the argument that claim limitation 53(b) (in conjunction with the preamble of claim 53) requires that all of the functions in limitation 53(b) be performed by a downhole CPU. The preamble of claim 53 utilizes the phrase "comprising," which means that a surface CPU could co-exist with the downhole CPU required by claim 53. Further, the Court notes that none of the five cited clauses in the '195 patent expressly required that a

downhole CPU not conduct the processes in 53(b). Thus, the cited clauses do not logically negate the presence of a downhole CPU.

Moreover, to the extent that Gyrodata proffers these five clauses in an attempt to evidence the disclosure of an embodiment that satisfies limitation 53(b) through a CPU on the surface, this argument fails. With regard to claim construction, the Federal Circuit has "stated [that] '[t]he written description must be examined in every case, because it is relevant not only to aid in the claim construction analysis, but also to determine if the presumption [that claim language should be given its] ordinary and customary meaning is rebutted.'" *Combined Sys., Inc. v. Def. Tech. Corp. of Am.*, 350 F.3d 1207, 1216 (Fed. Cir. 2003) (quoting *Brookhill-Wilk 1, LLC. v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 (Fed. Cir. 2003)). Accordingly, "the specification informs[,] but does not control, the claim construction. Rather, . . . the claim language itself governs the meaning of the claim." *Envirco Corp. v. Clestra Cleanroom, Inc.*, 209 F.3d 1360, 1365 (Fed. Cir. 2000); *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1574 n.2 (Fed. Cir. 1985) ("Claims are always interpretable in light of the specification and prosecution history of the application that led to the patent."). As such, patent claims do not necessarily "incorporate all disclosures in the specification." *J.P. Stevens & Co., Inc. v. Lex Tex Ltd., Inc.*, 747 F.2d 1553, 1563 (Fed. Cir. 1984) (citing *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570 (Fed. Cir. 1983)) (overruled on other grounds). Application of this case law defeats Gyrodata's assertions that it has proffered intrinsic evidence establishing that the CPU in limitation 53(b) is not necessarily downhole.

Specifically, as discussed above, the plain meaning of claim 53 logically requires that the CPU be downhole, and none of the five quotations cited by Gyrodata expressly disagree with the plain meaning of claim 53. As such, while intrinsic evidence beyond the claim language (i.e. the

five clauses cited by Gyrodata) should be considered, the Court must construe a claim pursuant to the (aforementioned) plain meaning. Accordingly, as elaborated upon earlier, the Court finds that the CPU required in limitation 53(b) is downhole (inside the sonde). Therefore, the Court agrees with Gyro Tech that the CPU is onboard the tool, is insertable into the borehole, and is capable of performing all three functions described in Claim 53, subsection (b).

2. Sonde

Gyro Tech asserts that, with regard to limitation 53(a), a sonde is "a sealed housing containing all of the apparatus elements and the CPU [disclosed in claim 53.]" In contrast, Gyrodata states that "sonde" means "an enclosed shell or housing for the protection of components located therein . . . [that] is not required to contain within it a CPU." Pursuant the claim construction of "CPU" adopted above, the Court adopts Gyro Tech's proffered construction.

3. Measuring Apparatus & Sequence of Data

Gyro Tech asserts that, with regard to the preamble of claim 53, "[a]n apparatus for measuring a sequence of data from within a well borehole" should be construed to mean that the apparatus must "be within the well borehole and contain all of the elements as defined in Claim 53" and "sequence of data" means "[a]t least two data points produced by the CPU upon performing all three functions defined in Claim 53, subsection (b)." To the contrary, Gyrodata maintains that "[a]n apparatus for measuring a sequence of data from within a well borehole" means an "apparatus for measuring a sequence of data from within a well borehole that includes but is not limited to components that are insertable into the wellbore" and, if the Court chooses to construe the term "sequence of data," it should be construed to mean "a set of more than one

piece of data." Pursuant the construction of "CPU" adopted above and the plain language of limitation 53(b), the Court adopts Gyro Tech's proffered construction.

4. The Force of Gravity

The parties disagree about the construction of the phrase "means for conveying said sonde comprises the force of gravity," as used in claim 56. Gyro Tech asserts that, with regard to this claim, "[t]he function is 'conveying said sonde within said well borehole,' and the corresponding structure is 'gravity in combination with a slickline' and structural equivalents." In contrast, Gyrodata states that no construction of this phrase is needed but, if the Court does construe the claim, "'means' includes but is not limited to the force of gravity, alone and/or in combination with other means of convening the sonde, including drill string, slick line and/or pump pressure and/or structural equivalents."

Claim 56 refers directly to limitation 53(c). The parties agree that limitation 53(c) ("means for conveying said sonde within said well borehole") utilizes means-plus-function language. "For [such] limitations, claim scope is limited to structure disclosed in the specification and equivalents. [I]f no structure is disclosed, the claim is indefinite." *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1256 n.7 (Fed. 2008) (citing *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007)).

Gyro Tech states that "the '195 patent specification identifies two, and only two, ways for 'conveying said sonde within said well borehole.'" Specifically, Gyro Tech argues that the specification solely identifies "(1) a slickline, or (2) a slickline in combination with a drill string," and therefore, the means-plus-function limitation in 53(c) is limited to these embodiments. Further, Gyro Tech properly points out that "[a] dependent claim includes all the limitations of the claim on which it depends, and thus, cannot be broader than the claim on which

it depends." *Trinity Indus., Inc. v. Road Sys., Inc.*, 121 F. Supp. 2d 1028, 1048 (E.D. Tex. 2000). Therefore, it argues that claim 56 (as a dependent claim) must be narrower than claim 53, and accordingly, it must include claim 53's "means for conveying said sonde within said well borehole," which consists of either "(1) a slickline, or (2) a slickline in combination with a drill string." The Court disagrees with Gyro Tech's argument.

Gyro Tech's assertion that the '195 patent specification did not disclose the force of gravity as a "means for conveying said sonde within said well borehole" is misguided. The force of gravity is clearly set forth in claim 56, which is part of the specification. *See Therasense, Inc. v. Becton, Dickinson and Co.*, No. 2008-1511, WL 254900, at *3 (Fed. Cir. Jan. 25, 2010). To the extent that Gyro Tech asserts that the force of gravity (as disclosed in claim 56) was not described in the patent as originally filed, this is an issue of validity, not claim construction. *See EZ Dock, Inc. v. Schafer Sys., Inc.*, No. Civ. 98-2364, 2003 WL 1610781, at *13 (D. Minn. March 8, 2003) (citing *Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989)) (unreported opinion) ("[T]he affirmative defense that a patent is invalid based upon the introduction of new matter is a statutory affirmative defense."). If necessary, that issue can be addressed at trial.

In a separate argument against Gyrodata's proffered construction of claim 56, Gyro Tech asserts that this claim improperly utilizes an intangible force (gravity) as the "means" in the means-plus-function limitation found in 53(c). This argument is premised on the language of 35 U.S.C. § 112, ¶ 6, which states that a claim element "may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts

described in the specification and equivalents thereof." In construing this statutory language, the Federal Circuit has stated:

> [35 U.S.C. § 112, ¶ 6] uses terms that might be viewed as having a similar meaning, namely, steps and acts. It refers to means and steps, which must be supported by structure, material, or acts. It does not state which goes with which. The word "means" clearly refers to the generic description of an apparatus element, and the implementation of such a concept is obviously by structure or material. We interpret the term "steps" to refer to the generic description of elements of a process, and the term "acts" to refer to the implementation of such steps. This interpretation is consistent with the established correlation between means and structure. In this paragraph, structure and material go with means, acts go with steps.

O.I. Corp. v. Tekmar Co., Inc., 115 F.3d 1576, 1582–83 (Fed. Cir. 1997). This quotation clearly associates "means" with apparatus claims and "steps" with process claims. To the extent that the Federal Circuit recognizes that "means" are usually associated with "structure," the Court interprets this to mean that "means" are usually associated with structure-based claims (i.e. apparatus claims), as opposed to non-structure based claims (i.e. method claims). Premised upon this interpretation, the Court finds no merit in Gyro Tech's argument that claim 56 cannot use an intangible force (gravity) as the "means" in an apparatus claim. As such, the Court accepts Gyrodata's proposed construction of claim 56.

5. Conveying Means

The parties agree that, with regard to the phrase "means for conveying said sonde within said well borehole" (as used in means-plus-function limitation 53(c)), the function is "conveying said sonde within said well borehole." Gyro Tech asserts that the corresponding structure is "(1) a slickline that conveys the sonde within the borehole, (2) a combination of a slickline and a drillstring that conveys the sonde within the borehole, and (3) equivalents thereof." With regard to this means-plus-function limitation, Gyrodata states that the corresponding structure is "a slick line, a drill string, the force of gravity, and/or pump pressure, . . . combinations thereof, and

structural equivalents." Consistent with the Court's discussion of "the force of gravity" above, the Court adopts Gyrodata's proposed claim construction.

VI. Conclusion

Pursuant to the findings and conclusions stated heretofore, the Court construes the '195 patent as described above.

It is so **ORDERED.**

SIGNED at Houston, Texas this 23rd day of February, 2010.

Kenneth M. Hoyt
United States District Judge